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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
BAYARD, EMMANUEL	
ART UNIT	PAPER NUMBER
2611	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	01/17/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/026,319	WILLIAMS ET AL.	
	Examiner	Art Unit	
	Emmanuel Bayard	2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 November 2006*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,4-22 and 25* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,4-22 and 25* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This is in response to amendment filed on 11/13/06 in which claims 1, 4-22 and 25 are pending. The applicant's amendments have been fully considered but they are moot based on the new ground of rejection. Therefore this case is made final.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2. Claims 1, 4-8, 13-14, 22 and 25 are rejected under 35 U.S.C. 102(e) as being anticipated by Pulley et al U.S. Patent No 6,754,292 B1.

As per claim 1, Pulley et al teaches a method of detecting packets in a communications channel comprising: (a) sampling the communications channel at a first sampling rate, producing a sequence of samples (see fig.1 element 10 and col.1, lines 38-40 and col.2, lines 8-25); (b) correlating at least one sample of the sequence of samples from step a (see fig.1 elements 14, 16, and col.1, lines 43-50 and col.2, lines 32-35 and col.3 lines 1-22) with one or more samples of the sequence of samples from step a to generate a plurality of correlation results; computing a correlation (see fig.1 see elements 20, 24, 22 or 32, 34, 36, 28 and col.2, lines 45-67 and col.3, lines 15-23) value from the plurality of correlation results; (c) comparing the correlation result with a

threshold (see col.1, lines 52-54 and col.3,lines 24-30 and col.4, lines 5-19); sampling the channel at a second sampling rate based on and changed by the result of the comparison (see fig.1 element 42 and col.1, lines 54-56 and col.3, lines 31-38).

As per claim 4, Since Pulley teaches the sampling rate of the receiver is exactly synchronized with the sampling rate of the transmitted signal, which inherently includes an encoded data (see col.4, lines 5-10). Therefore Pulley inherently teaches the first sampling rate is sufficient to (recover) data encoded in the packet as to accurately determine the sampling rate of the incoming signal.

As per claim 5, Pulley teaches wherein the second sampling rate is greater than the first sampling rate (see col.3, lines 34-38).

As per claim 6, Pulley inherently teaches wherein the second sampling rate is an integer multiple of the first sampling rate (see col.3, lines 34-38).

As per claim 7, Since Pulley teaches the sampling rate of the receiver is exactly synchronized with the sampling rate of the transmitted signal, which inherently includes an encoded data (see col.4, lines 5-10). Therefore Pulley inherently teaches the second is an integer multiple of a minimum sampling rate required to accurately recover data encoded in the packet.

As per claim 8, Pulley teaches wherein the second sampling step occurs only if the correlation result exceeds the threshold (see col.4, lines 1-20).

As per claim 13, Pulley inherently teaches wherein the correlation step is performed after a new sample is produced (see col.3, lines 15-35).

As per claim 14, Pulley inherently teaches wherein the correlation step is performed after a specified number of new samples are produced (see col.3, lines 15-35).

As per claim 22, Pulley teaches a first plurality of samples is correlated with one or more plurality of samples generate the plurality of correlation results (see fig1. elements 14, 16).

As per claim 25, Pulley teaches wherein the computing the correlation value comprises: summing the plurality of correlation results (see fig.3 element 28).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 9-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pulley et al U.S. Patent No 6,754,292 B1 in view of Miya U.S. Patent no 5,818,869.

As per claims 9 and 12, Pulley teaches all the features of the claimed invention except decoding the packet; transmitting modulated spreading codes is the same as the claimed (processing any data encoded in the packet) since a decoding step in achieved in the receiver

Miya et al does teach decoding the packet (see col.3, lines 43-50 and col.4, lines 62-67 and col.6, lines 11-15); transmitting modulated spreading codes is the same

as the claimed (processing any data encoded in the packet) since a decoding step in achieved in the receiver (see col.2, lines 25-26 and col.3, lines 53-55) in the packet.

It would have been obvious to one of ordinary skill in the art to implement the teaching of Miya into Pulley combination as to accurately measure the BER of the sampling position as taught by Miya (see col.6, lines 6-20).

As per claim 10, Pulley and Miya in combination would teach wherein following the processing step, the method further comprising the step of changing the sampling rate back to the first sampling rate after the completion of processing the packet as to accurately measure the BER of the sampling position as taught by Miya (see col.6, lines 6-20).

As per claim 11, Pulley and Miya in combination would teach wherein following the processing step, the method further comprising the step of stopping the processing of the packet and changing the sampling rate back to the first sampling rate after determining an erroneous detection as to accurately measure the BER of the sampling position as taught by Miya (see col.6, lines 6-20).

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 15-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Pulley et al U.S. Patent No 6,754,292 B1 in view of Miya et al U.S. Patent No 5,818,869 and in further view of Doi et al U.S. Patent No 5,870,594.

As per claims 15 and 19, Pulley teaches a receiver for a communications system comprising: an baseband input is the same as the claimed (signal detector) (see fig.1 element 12 and col.2, lines 8-9), the baseband input (signal detector) containing circuitry to detect signals transmitted on a communications channel; a sampler samples (see fig.1 element 10 and col.1, lines 38-40 and col.2, lines 8-25) coupled to the baseband input (signal detector), the sampler containing circuitry to sample the signals detected on the communications channel by the signal detector at a variable sampling rate and produce a sequence of samples, wherein the sampler samples the communications channel at a first sampling rate when attempting to detect a packet and at a second sampling rate when a packet has been detected (see col.3, lines 1-40); a correlator containing circuitry to correlate at least one sample of the sequence of samples from the sampler (see fig.1 elements 14, 16, and col.1, lines 43-50 and col.2, lines 32-35 and col.3, lines 1-22) with one or more samples of the sequence of samples to generate a plurality of correlation results; computing a correlation (see fig.3 element 28 and col.3, lines 20-30) value from the plurality of correlation results; a processor is inherently taught by Pulley (see fig.1) coupled to the correlator (14, 16) and the sampler (10) , the processor containing circuitry to detect the presence of a packet based on results produced by the correlator (c) by comparing the correlation result with a

threshold see col.1, lines 52-54 and col.3,lines 24-30 and col.4, lines 5-19 and see fig.1 element 42 and col.1, lines 54-56 and col.3, lines 31-38).

However Pulley does not teach a processor to decode and process data contained in a packet transmitted on the communications channel, and to control and change the sampling rate of the sampler.

Miya teaches a processor to decode and process (see col.3, lines 43-50 and col.4, lines 62-67 and col.6, lines 11-15) data contained in a packet transmitted on the communications channel, and to control the sampling rate of the sampler (see figs. 10-11 feedback elements 110-103).

It would have been obvious to one of ordinary skill in the art to implement the teaching Miya into Pulley as to accurately measure the BER of the sampling position as taught by Miya (see col.6, lines 6-20).

Pulley and Miya et al in combination do not teach wherein the sampler comprising: a latch coupled to the signal detector, the latch containing circuitry to capture a signal value at a first input and produce a sample corresponding to the captured signal value at an output; and a sampling clock coupled to the latch and the processor, the sampling clock containing circuitry to control the sampling rate of the sampler based on control information from the processor.

Doi et al teaches a sampler comprising a latch (see fig.1 element 105) coupled to the signal detector (see fig.1 element 106), the latch containing circuitry to capture a signal value at a first input and produce a sample corresponding to the captured signal value at an output (see col.2, lines 65-67 and col.3, lines 1-3 and col.5, lines 10-11);

and a sampling clock (see fig.1 element 107 and col.5, lines 7-15) coupled to the latch and the processor, the sampling clock containing circuitry to control the sampling rate of the sampler based on control information from the processor.

It would have been obvious to one of ordinary skill in the art to implement the teaching of Doi into Pulley and Miya et al as to control clock timing by detection of the deviation of the clock timing from a desired reference timing during both start-up and normal operations and using the result of the detection for applying feedback to the clock generator as taught by Doi (see col.1, lines 63-67).

As per claim16, Pulley, Miya et al and Doi in combination would teach, wherein the processor changes the sampling rate back to the first sampling rate after the completed reception of the packet as to control clock timing by detection of the deviation of the clock timing from a desired reference timing during both start-up and normal operations and using the result of the detection for applying feedback to the clock generator as taught by Doi (see col.1, lines 63-67).

As per claim 17, Pulley, Miya et al and Doi in combination would teach wherein the processor changes the sampling rate back to the first sampling rate after the processor determines that the packet was destined for a different receiver as to control clock timing by detection of the deviation of the clock timing from a desired reference timing during both start-up and normal operations and using the result of the detection for applying feedback to the clock generator as taught by Doi (see col.1, lines 63-67).

As per claim 18, Pulley, Miya et al and Doi in combination would teach wherein the processor changes the sampling rate back to the first sampling rate after

determining an erroneous detection of the packet as to control clock timing by detection of the deviation of the clock timing from a desired reference timing during both start-up and normal operations and using the result of the detection for applying feedback to the clock generator as taught by Doi (see col.1, lines 63-67).

As per claim 20, Pulley, Miya et al and Doi would teach wherein the signal detector is a sensor capable of detecting wirelessly transmitted signals as to accurately performing synchronization during the operation.

As per claim 21, Pulley, Miya et al and Doi in combination would teach wherein the signal detector is a sensor capable of detecting signals transmitted on a wire-line communications channel as to accurately performing synchronization during the operation.

Conclusion

3. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of

the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Yamaguchi et al U.S. Patent No 5,761,211 teaches a peak correlation timing recovery.

Helard et al U.S. Paten no 6,459,744 B1 teaches a multi-carrier symbol.

Hiulbert U.S. patent No 5,920,555 teaches a pilot based direct sequence.

Richards et al U.S. Patent No 6,914,949 B2 teaches a method and system for reducing potential interference.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel Bayard whose telephone number is 571 272 3016. The examiner can normally be reached on Monday-Friday (7:Am-4:30PM) Alternate Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jay Patel can be reached on 571 272 2988. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Emmanuel Bayard
Primary Examiner
Art Unit 2611

1/10/07

EMMANUEL BAYARD
PRIMARY EXAMINER